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ABSTRACT

The conceptual framework for determining intelligence needs for dissemination service capacity that is presented is designed to assist state education agencies in improving their abilities to provide comprehensive dissemination services to their clientele. A section on the intelligence component of this model concerns (1) users and non-users at both the individual and organizational levels; (2) impacts on individuals and organizations on local, regional, state, and federal levels; (3) levels from which intelligence is to be gathered; (4) the receivers of this intelligence; and (5) projects which need such gathered data for their service building capacity. To form the building blocks of the conceptualization of developing service capacity, four questions of need are examined: What intelligence concerning individual users and non-users is needed? What intelligence concerning organizational users and non-users is needed? What intelligence about the impact upon individual users is needed? What intelligence about the impact on organizational users is needed? Three tables and ten references are included. (FM)

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INTELLIGENCE FOR DISSEMINATION SERVICE CAPACITY: A CONCEPTUAL FRAMEWORK

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Prepared by:

NTS Research Corporation with the
assistance of the following persons:

Design Committee

Carnot Nelson, chairman
Naida Bagenstos
Virginia Cutter
Michael Everett
Joseph F. Haenn
Robert Herriott
Doren L. Madey
Ward Mason
Carol Reisinger
Robert Rich

NTS Project Staff

Joseph F. Haenn
Project Co-Director

Doren L. Madey
Project Co-Director

Ernest W. Strang

Prepared for:

Program on Dissemination and
Improvement of Practice
National Institute of Education
1200 19th Street, N.W.
Washington, D.C. 20208

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PREFACE

As part of its mission to facilitate the improvement of education throughout the country, the National Institute of Education (NIE) is responsible for building "an effective research and development system." The State Dissemination Grants Program is a major initiative by NIE to achieve its mission and part of a larger effort now underway to develop a nationwide configuration for the improvement of educational practice. NIE expects the State Dissemination Grants Program (SDGP) to encourage the development of that nationwide configuration by assisting a group of significant actors in it, state education agencies, to improve their abilities to provide "comprehensive and generalized" dissemination services to their clientele.

Under the sponsorship of the NIE's Program on Dissemination and Improvement of Practice, NTS Research Corporation is conducting a study in two phases of the capacity building component of the State Dissemination Grants Program (NIE Contract No. 400-76-0166, October 1976) to provide detailed answers for two overarching questions: (1) Is dissemination capacity being built, and if so, how? (2) Is the capacity building component of the State Dissemination Grants Program having an effect, and if so, what is the nature of that effect? Phase I of the study, an eleven-month design phase that extended from October 1976 through August 1977, was devoted to describing the program, clarifying and translating the program's goals into measurable variables, and developing a design, appropriate instrumentation, and data collection and analysis procedures for the study. Phase II, the full-scale evaluation, was initiated in September 1978, and is scheduled to conclude in April 1980. Phase II objectives include describing and tracking the process of building dissemination capacity, documenting the impact of the program, sharing the study findings and analyses with NIE and the states to promote program and project improvement, and developing mechanisms for the continual evaluation and measurement of capacity building.

Five major documents were produced during Phase I of the NTS study:

- 1977 State Abstracts (September 1977) contains summaries of twenty-four capacity building projects. Included are the ten states initially funded in 1975 and the fourteen additional projects funded in 1976. The abstracts document dissemination activities in the SEAs as of May 1977.

- State Reports (July 1977) contains extensive documentation on nine of the first states funded through the capacity building component of the State Dissemination Grants Program. The mini-case studies examine dissemination activities in nine SEAs as of May 1977.

- A Compendium of Evaluation and Documentation Forms Currently in Use by State Capacity Building Projects (July 1977) is a compilation of selected instrumentation used by the capacity building projects. An accompanying narrative describes the included materials.

- Final Design Report of the Evaluation of the State Capacity Building Grants Program (July 1977) is a two-volume report. Volume I contains the proposed designs for the full-scale evaluation. Volume II contains proposed instrumentation.

- Building Capacity in Dissemination: Literature Review (March 1977) was used to inform the design process. The Literature Review consists of two separate but related products. The first summarizes dissemination literature, using an organizing framework which parallels that followed in NTS design work. The second product consists of an extensive bibliography and outline of topics covered in the Review. Each entry in the outline is followed by a list of relevant citations.

Major reports prepared during Phase II of the NTS study include:

- Intelligence for Dissemination Service Capacity: A Conceptual Framework (February 1979) expands an earlier framework into a heuristic device for studying users of educational dissemination services. This conceptual framework was completed to guide the development and refinement of questions, variables and instrumentation for the service capacity component of the NTS study.

- This report, Information About Users and Usages: A Literature Review (February 1979) is a companion document to A Conceptual Framework. The review was prepared as part of the design process used to develop the framework.

- Improving State Dissemination Efforts: An Evaluation of NIE's State Dissemination Grants Program (March 1979) is the first-year technical interim report on the full-scale evaluation of capacity building component of the State Dissemination Grants Program. Included is an overview of the evaluation, purposes of the study, framework, evaluation questions, sampling plans, data collection methods, analytic techniques and findings. The processes used by SEAs to develop capacity for gaining access to information resources and for linking such resources to the needs of educators are described by studying SEAs that have received capacity building grants. Impacts of the capacity building effort are also identified and discussed.

- 1978 State Abstracts (March 1979) contains summaries of dissemination activities in twenty-nine SEAs as of December 1978. Included are nine SEAs initially funded in 1975, fourteen additional projects initially funded in 1976, and six SEAs initially funded in 1977. An introductory chapter presents comparisons and contrasts among the individual projects.

- Request for OMB Clearance with Supporting Documents for the Evaluation of the State Capacity Building Program in Dissemination (Revised June 1978) is the justification and instrumentation package prepared for and approved by the Office of Management and Budget for use in the evaluation.

- A Framework for the Evaluation of the State Capacity Building Program (May 1978) presents the organizing framework for the evaluation. The focus of the evaluation, dissemination capacity, is conceptualized to consist of two major components: service capacity and user capacity. The first year of the full-scale evaluation examines service capacity; further design work will specify the focus of the second year's evaluation.

- The Client Assessment Package (December 1978) is a set of five machine-readable instruments developed by NTS to record the process of seeking and using information and assistance for educational improvement. Linked by a common identification field, the five forms in the package are the Service Form, Process Form, Linker Form, Immediate Feedback Form and Client Assessment Form. An accompanying Guide to the Client Assessment Package provides instructions for completing and using the forms.

Additional documents will be prepared during the second year of the full-scale study.

TABLE OF CONTENTS

	Page
Preface	ii
List of Tables	vi
Introduction	1
Intelligence Component	2
Individual/Organizational Levels	4
Users/Non-Users	5
Impact	8
Intelligence Information from Whom?	10
Intelligence for Whom?	10
Intelligence of Whose Service Capacity?	11
Building Blocks	12
Intelligence at the Individual Level	13
Intelligence at the Organizational Level	18
Impact at the Individual Level	23
Impact at the Organizational Level	24
Final Note	27
What Data Should NTS Collect	28
References	29

LIST OF TABLES

Table		Page
1	Conceptualization of Users and Non-Users	7
2	Intelligence at the Individual Level	14
3	Intelligence at the Organizational Level	18

INTELLIGENCE FOR DISSEMINATION SERVICE CAPACITY: A CONCEPTUAL FRAMEWORK

Introduction

The NTS Research Corporation's Evaluation of the Capacity Building component of the State Dissemination Grants Program is designed to measure the extent to which a comprehensive dissemination capacity is being developed in state education agencies (SEAs) and to assess the impact of the capacity building activities (RFP, NIE-R-76-0010). Two overarching questions provide an umbrella for this evaluation.

- Is dissemination capacity being built? If so, how?
- Is the Capacity Building component of the State Dissemination Grants Program having an effect? If so, what is the nature of that effect?

To answer the first question, it is necessary to stipulate what is meant by dissemination capacity. In NTS's Framework for the Evaluation of the State Capacity Building Program (1978), dissemination capacity was defined as service capacity plus user capacity. Service capacity was conceptualized to consist of contextual characteristics, system characteristics and output variables in the domains of leadership/management, information resources, linkages and clients.

Development of a conceptual framework for user capacity was to be completed during 1979. NTS commissioned the following individuals to provide papers on the indicated topics:

- Richard Brickley, "Clients, Users and Non-Users."
- Susan Loucks and Edwin Myers, "Identification of Actual Client Needs."

- Frank Mattas, "How Users Become Aware of Services and Seek Information."
- David Crandall and Richard Harris, "Utilization of Services and/or Materials."
- Durwood Hofler, "Effects of Services on Decision-Making."

In addition, the following individuals met in Tampa, Florida on September 17-19, 1978, to discuss the problem of user capacity and to provide input into the development of the framework:

- Carnot Nelson, University of South Florida
- Robert Rich, Princeton University
- Robert Herriott, Private Consultant
- Virginia Cutter, Texas Education Agency
- Carol Reisinger, Illinois Office of Education
- Ward Mason and Naida Bagenstos, NIE
- Doren Madey, Michael Everett and Joe Haenn, NTS

The papers and the meeting in Tampa provided us with a large number of ideas concerning user capacity, some of which we have incorporated into our conceptual framework.

Intelligence Component

Mason (1978) points out that the Capacity Building component of the State Dissemination Grants Program was originally envisioned as delivering external resources to operating school systems. By external resources, we mean information and technical assistance that are not part of the operating school system. Examples of external resources range from the provision of ERIC searches to the provision of technical assistance in the implementation of new programs. Viewing external resources in this way means that all

four aspects of the Dissemination Analysis Group's definition of dissemination could be incorporated within the Capacity Building component of the State Dissemination Grants Program. However, the various projects within the program differ widely in the types of resources and services that they provide; hence, the individual projects may differ as well in the aspects of the DAG definition they emphasize.

If we assume the Capacity Building component was designed to foster and stimulate the delivery of external resources (as defined above) by state education agencies, then the question arises: For each project, what resources and services should be provided to whom and how should these services be delivered? To develop a portfolio of resources and services, the projects should have some means of knowing their users's needs and how to deliver their services. Another way to phrase this question is: What do the projects need to know about their users to provide optimal services? Viewing user-capacity as the information that projects need to know about their users, in essence, adds an intelligence gathering component to what has been referred to as service capacity; and for practical purposes, this intelligence component is part of a much broader question:

what intelligence about { *individual* / *organizational* } { *users* / *non-users* } *of services*

and impacts on { *individuals* / *organizations* } *at the* { *school* / *school district* / *intermediate service agency* / *state education agency* / *regional* / *federal* }

level to needed by { *schools / school districts / intermediate service agencies / state capacity building projects / state education agencies / regional agencies / Federal agencies* } *to increase*

service capacity on the part of { *schools / school districts / intermediate service agencies / state capacity building projects / state education agencies / regional agencies / Federal agencies* }.

Given this broad conceptualization of the intelligence gathering component of service capacity, we need to delineate carefully those portions of the intelligence component which are relevant or irrelevant to the Capacity Building component of the State Dissemination Grants Program and to the NTS evaluation.

Individual/Organizational

To build effective service capacity, projects need to have intelligence about both the individuals and organizations they propose to serve. Although information about individuals is important, and is being collected through the Client Assessment Package, knowledge about organizations is equally important and such information is not being adequately collected at this time. To provide services to organizations, projects should have some information about the internal resources of these organizations. Paisley and Butler (as cited in Mason, 1978) distinguish between client program needs and client service needs. It appears that "client program needs" refer to the resources (human, informational, financial, etc.) needed by a client to successfully complete the whole problem-solving process, from the diagnosis of a

problem to the successful implementation of a solution to the problem, while 'client service needs' refer to those needs which cannot be satisfied internally. Although these two concepts could pertain to both the individual and organizational level, they appear to have special relevance to the organizational level because they emphasize the need for service-providing organizations to respond to client service needs (i.e., needs not met internally). To meet client service needs, service-providing organizations must be aware of the existing resources within the organizations they propose to serve.

Users/Non-Users

In our definition of the intelligence component of service capacity, the next terms bracketed are users and non-users. The issues here are these: Do the projects have a responsibility for collecting information from both users and non-users of their services, if so, what are the conceptual and methodological problems involved in the examination of users and non-users? In addition, we must ask: What types of information should MFS be collecting regarding users and non-users? (It should be pointed out that when we discuss users and non-users, we are only referring to those persons and organizations who are part of the intended audience for a particular service.)

As part of their intelligence gathering activities, it appears important that projects collect data on non-users as well as users who are members of the project's target audience. If no information is collected from non-users, the projects will have no idea as to the extent of their 'market penetration' nor any idea why individuals and organizations are not using their services.

Users and non-users must be examined at both the individual and organizational levels because, although the reasons for non-use may be similar, the factors related to use or non-use may be different at each level. Examples of reasons for non-use at the individual level might be lack of perceived need for the service, lack of awareness of the service, or lack of financial resources to use the service. At the organizational level, examples of reasons for non-use might be that the services are already provided within the organization, that the state department of education is not viewed by the organization as a provider of services, or that by requesting the service the organization would be admitting it has problems it cannot address. In addition, the organization could believe that it has no problems; or the organization may be unaware of the existence of the service. Therefore, projects should be trying to assess the reasons for non-use by individuals and organizations within their target audience.

The key conceptual questions related to users and non-users are: How do we differentiate between users and non-users? Are users only those persons who receive the services directly? What about the indirect users--those individuals who receive information from the service because someone passed it on to them? In addition, it appears that the term 'users' has two meanings, one referring to persons or organizations who access the service, the other to persons or organizations who use the information/services provided. Using those two levels, we can develop the 2x2 table below.

Table 1. Conceptualization of Users and Non-Users

		Use Service (Directly of Through Linker)	
		Yes	No
Use Information Provided by Service	Yes	Cell 1	Cell 3
	No	Cell 2	Cell 4

In cell 1 are those individuals who use both the service and the information provided by the service. An example of an individual in this cell would be the teacher who contacts the service either directly or through a linker, and requests and receives descriptions of curricular materials and makes some use of the material. In cell 2 are the individuals who use the service directly or through a linker, but do not use the information provided by the service. An example of an individual in this cell, would be a teacher who accesses the service but does not use the information. Cell 3 contains those individuals who do not deal with the service either directly or through a linker, but who use information provided by the service. An example of this user would be a teacher who receives information from another teacher (who requested it) and uses it. In cell 4 are those individuals who neither access the service nor use information from the service. Such individuals are non-users at both conceptual levels.

All examinations of users and non-users will have to indicate carefully which cells of the matrix they concern. The relative emphasis put on collecting data from individuals in each of these cells will depend on the uses for which the information is needed, the type of services offered and the financial resources available to conduct the

work. Information about non-users may indicate weaknesses in awareness campaigns, or the need for more field knowledge about ease of use, or a number of other such problems.

From NTS's perspective, the key question appears to be: What types of information are the projects collecting from individuals in the four cells of the matrix? As part of its technical assistance activities, NTS might assist the projects in developing intelligence gathering techniques, especially those directed at cells 3 and 4 of the matrix; the NTS-developed Client Assessment Package is already examining individuals in Cells 1 and 2.

Impact

The next question we must address is: Should the projects be concerned with obtaining information on the impact of their services on both the individuals and organizations served? Logically, it appears that projects should be concerned with obtaining evidence of impact for two reasons. First, projects should be equipped to evaluate the services they provide. If a service is not having a positive impact on the individuals and organizations it purports to serve, the question for the provider of the service is: Why is the service not having positive impact and how can the service be modified to obtain a positive impact? Second, evidence of impact appears to be important in demonstrating to SEA administrators the value of the services provided, substantiation that may be necessary if dissemination projects are to be institutionalized.

The key conceptual question here is: What do we mean by impact? First we must distinguish between proximal impact and ultimate impact.

Proximal impact refers to the impact upon the individual or organization directly receiving the services provided by the projects or by their linkage agents. For example, it is possible to ascertain the impact of information or technical assistance provided by the projects to teachers or school systems through an intermediate service agency. Ultimate impact refers to the improvement of student performance. In our use of impact, we are referring only to proximal impact since there are a host of factors intervening between the services provided by the projects and student performance over which the projects have absolutely no control.

Then, a second distinction must be drawn between the types of services provided by the various projects. For example, the impact upon users of information packages may be quite different from the impact of technical assistance in the implementation of a new program, since use of information does not necessarily equate with change, whereas use of technical assistance implies change frequently. Therefore, it will be necessary to examine impact in relation to the types of services offered, first by listing all the services provided by each of the projects and then by developing impact measures. Consequently, this activity may be beyond the fiscal resources available to NTS at this time.

Lastly, as Crandall and Harris (1978) point out, the incidence of change itself has been used too many times as the measure of the impact of information and/or services. This viewpoint, we believe, does not take into account the wide variety of uses to which information can be put. For example, information can be used to extend knowledge or to confirm existing practice, neither of which involve change and both of which are legitimate uses. Therefore, a proper assessment of impact would have to consider the uses to which the information and/or services

are put, including uses resulting in change and uses not resulting in change.

Intelligence Information from Whom?

The educational system in the United States operates on many levels from the individual schools, to the school district, to the intermediate service agency, to the state education agency, to the Federal government. The question we have is: From which levels should the projects be collecting intelligence information? This question can be answered only if we answer a prior question, namely: To which levels are the projects trying to be of service or upon which levels are they trying to have an impact? Based on the nature of the State Dissemination Grants Program and the current projects, services and impact are focused most often upon individual schools, school districts, intermediate service agencies and state education agencies. In addition, however, projects may serve community groups, legislators, parents, state and local boards of information, and not all projects focus on all of these types of organizations. Therefore, the projects should confine their intelligence gathering activities to those individuals and organizations they serve.

Intelligence for Whom?

The next question we must address is: Who needs the information? For though the intelligence may be of use to a variety of institutions, the information needs of the projects and the SEAs must be the prime concern of our inquiry; it is the projects which NIE is funding and the NTS study is focused on the NIE program, concentrating on the service capacity of the projects. Moreover, NTS will have to be concerned with

the intelligence needs of the SEAs because building comprehensive state (read SEA) dissemination capacity is the object to which the NIE program is committed. However, if the evaluation will be examining the service capacity of the states as planned, then it will be necessary to extend the study of the intelligence component of service capacity to include that level.

Intelligence of Whose Service Capacity?

To limit the scope of our inquiry, the final question to answer is: For whose building of service capacity should the information be collected? Though each of the levels mentioned previously (e.g., school, school district, intermediate service agency) may be involved in the building of its own dissemination capacity, it appears again that we should focus our efforts on the building of service capacity within the projects and the SEAs, at least for the short term. In the future, however, if NIE is interested in assessing the service capacity of states, then it will be necessary to obtain information that would be useful in building the service capacity of a wide range of educational institutions.

Thus, the overall question which NTS must address in the intelligence for dissemination service capacity aspect of its evaluation of the Capacity Building component of the State Dissemination Grants Program is stated as follows:

> To build and operate comprehensive dissemination programs, what intelligence is needed by the State Capacity Building Projects and the SEAs about individual and organizational users and non-users of dissemination services--and about the impacts of those services on individuals and organizations--at the school, school district, intermediate service agency and state education agency levels?

Building Blocks

That comprehensive question can be broken down into four subquestions that form the building blocks of our conceptualization of the intelligence component of service capacity. These questions are:

- What intelligence concerning individual users and non-users is needed for building service capacity?
- What intelligence concerning organizational users and non-users is needed for building service capacity?
- What intelligence about the impact upon individual users is needed to build service capacity?
- What intelligence about the impact upon organizational users is needed to build service capacity?

In the next section of this paper we examine each of these questions and indicate the types of variables on which data should be collected.

Before going into that discussion, however, we must stress that the projects differ in both the types of services they offer and in the mechanisms used to deliver those services. First, the portfolio of services offered by a project may include any or all of the following:

- Disseminating prepackaged information
- Conducting demonstration projects
- Providing information on human resources
- Coordinating and identifying services
- Brokering services
- Providing technical assistance in the identification of needs and alternatives for meeting those needs
- Providing information services tailored to specific requests
- Providing technical assistance on the process of choosing alternatives

- Providing technical assistance to feed effective programs back into the resource base
- Conducting awareness activities
- Identifying service gaps
- Training persons in linker skills

These services tend to deal with two very different types of needs: 1) need for educational services (e.g., assistance on a reading problem) and 2) dissemination/utilization services (e.g., linker skills training). In the NTS conceptualization of service capacity the resource base focuses more on the need for educational services, while linkage and leadership/ management focus more on dissemination/utilization needs.

The projects also may differ in the extent to which they control the mechanisms by which their services are delivered. For example, some projects use their own linkers to provide services while other projects use linkers employed by other organizations.

Hence, intelligence information is needed by the projects relative to the types of services they provide or plan to offer; so the intelligence needs relative to type of service will differ among the projects. However, when gathering intelligence information concerning the mechanisms by which their services are delivered, the projects must be concerned with the whole delivery system, not just the portion over which they have direct control; for if the projects and the SEAs, are to be effective in the area of dissemination, especially in their leadership function, they must be aware of the dissemination system of which they are a part.

Intelligence at the Individual Level

We have conceptualized "intelligence at the individual level" to consist of four factors:

- Service Seeking
- Functional Responsibility
- Demographics
- Context within which the Individual Functions

These factors and the variables they subsume are presented in Table 2.

Table 2. Intelligence at the Individual Level

Factors / Variables	Service Seeking	Functional Responsibility	Demographics	Context Within Which Individual Functions
	•Intended Use of the Service		•Length of Service on Job	•Access to the Service
	•Awareness of the Service	•Competing/ Collateral Responsibilities of the User		•Financial Support to Use the Service
	•Knowledge of How to Use the Service	•Position of the User	•Sex	•School Demographics
	•Ability to Use the Service Provided		•Race/Ethnicity	
	•Attitude Toward Type of Service			
	•Perceived Ease of Use of the Service		•Educational Field	
	•Type of Service Sought			
	•Previous Use of the Service			

Service Seeking. The service seeking factor deals with the individual's specific reasons for using the service and his/her awareness of and ability to access the service (including how the user became

aware of the service). The types of variables included in this factor are:

- Intended Use of the Service
- Awareness of the Service
- Knowledge of How to Use the Service
- Ability to Use the Service Provided
- Attitude Toward Type of Service
- Perceived Ease of Use of the Service
- Type of Service Sought
- Previous Use of the Service

The variables constitute the types of information the projects need to provide appropriate services. However, there are other variables subsumed by "service seeking" which would provide useful information to the linkers (those individuals who deal directly with the clients). For example, linkers might well desire and need information on the users' and non-users' attitudes toward new information and/or change and toward the agency providing the service.

In general, the meaning of the variables subsumed under "service seeking" are self-explanatory. However, an amplification of the "knowledge of how to use the service" and "ability to use the service" may be helpful. "Knowledge of how to use the service" refers to whether an individual is aware of the procedures needed to obtain the service. For example, do individuals know they must obtain the service through a linker, and are they aware of the forms that must be filled out to access the service? The "ability to use the service" variable refers to the abilities that users bring to the situation, and what the service presumes about the users. For example, if the project provides ERIC documents to the users, then the project is presuming that they have the ability to understand the documents.

Functional Responsibility. Functional responsibility refers to the individual's professional responsibilities and his/her knowledge of and attitudes toward the specific substantative area for which the service is desired (e.g., reading, mathematics, classroom management). Functional responsibility can impact on the need for information and service or on the use to which the information or service is put. Variables subsumed by functional responsibility include:

- Competing/Collateral Responsibilities of the User
- Position of the User

As Brickley (1978) has pointed out, user classification shema have not proved as useful as anticipated owing to the incongruence between information use characteristics and typical educator job titles. "Competing/collateral responsibilities" refers to the wide variety of responsibilities that a user may have in addition to the responsibility which generated the request.

Demographics. Demographics or the attributes of the user include a wide variety of variables such as:

- Length of Service on Job
- Sex
- Race/Ethnicity
- Educational Field

However, the basic question here is: Does knowing these demographic characteristics aid the project in developing its service capacity? Except with respect to equity concerns, most of the demographic information may assist the projects in sensing the needs of their clients and the linker

in providing the services. For example, if a large number of elementary school teachers are requesting information on "Topic A," then the project might develop a prepackaged packet of information on "Topic A" for such teachers.

Context Within Which Individual Functions. We expect the context within which the individual user or non-user functions to be of great importance to the service providing agency. Three variables subsumed by this factor are:

- Access to the Service
- Financial Support to Use the Service
- School Demographics

"Access to the service" refers to how easy the organization makes it for the user to access the system (e.g., how much internal paper work is necessary to access the system?). Financial support includes the budget and staff resources which the user's organization provides to allow the user to access the system. "School demographics" include the size of the school, its organizational complexity, the ethnicity of its students, its resources, whether it is urban or rural, and the population it serves.

Linkers would also be concerned with three additional context variables:

- Incentives for use within the school or district
- Characteristics of the specific organization within which the user functions (e.g., organizational climate of the organization, relationship between the user and other members of the organization, history of conflict within the organization)

- Innovative history of the organization

Intelligence at the Organizational Level

At this level, we turn our concern from the individual to the organization. As we mentioned earlier, the organization can be a school, school district, intermediate service agency, or a state education agency. As with intelligence at the individual level, we are able to cluster the important variables under four factors:

- "Internal" Service Capacity
- Problems, Needs and Priorities
- Organizational Attributes
- Context within which the Organization Operates

These factors and the variables they subsume are presented in Table 3.

Table 3. Intelligence at the Organizational Level

Factors	"Internal" Service Capacity	Problems, Needs, and Priorities	Organizational Attributes	Context within which Organization Operates
Variables	•Internal Linkers	•Chronic vs. Acute	•Organizational Climate	•Political Context
	•Resource Support Base	•Unique vs. Common	•Size	•Legislative Mandates
	•Needs-Sensing/ Goal Process/ Planning	•Content Area	•Urban/Rural	•Community Context
	•Evaluation/ Monitoring	•Grade Level	•Enrollment Trends	
	•Relationships with Other Organizations	•Importance to Organization	•Population Characteristics	
	•Knowledge Utilization Modes			

"Internal" Service Capacity. "Internal" service capacity refers to the dissemination capacity which already exists within the organization being provided the service. This concept is similar to the notion of "service capacity" as developed by NTS in its study of the Capacity Building component of the State Dissemination Grants Program. The variables subsumed by this factor can be classified into the three subfactors of resources, linkage and leadership/ management that NTS has used in describing project and SEA dissemination activities. The variables subsumed by "internal" service capacity include:

- Internal Linkers
- Resource Support Base
- Needs-Sensing/Goal Process/Planning
- Evaluation/Monitoring
- Relationships with Other Organizations
- Knowledge Utilization Modes

"Internal linkers" refers to the extent that the user organization maintains individuals who are responsible for connecting the organization with outside resources. It should be made clear that we are concerned with the role of the linker (namely that individual who connects the users with the resource base) and not a specific title. The role of linker can be performed by individuals with a wide variety of titles (e.g., principal, curriculum specialist, resource teacher, librarian, etc.). Such information would be useful to a service agency for they would then know to whom to direct their information and services.

The resource base support variable is concerned with both the informal and formal resources that the organization has. For example, does the organization have the ability and resources to do an ERIC

search? Does the organization have a set of consultants with whom it regularly deals? Does the organization subscribe to professional journals?

Another important variable for intelligence gathering at the organizational level is the types and extent of needs sensing, goal setting and planning activities engaged in by the organization. Obviously, if the needs of an organization are known, the service agency can better respond to these needs. In addition, the service agency that knows the planning process being used has a better opportunity to impact on the planning process and on the implementation of the plans. "Evaluation/monitoring" refers to the types of and extent to which the user organization engages in these activities.

"Relationships with other organizations" refers to both the formal and informal relationships that exist between the consumer organization and any other organization in the area of dissemination and utilization. Examples of such relationships are: 1) SEA has a service contract with SMERC; 2) Joint staffing relationships between a school district and a local college of education; 3) Local district works closely with the local teacher center.

"Knowledge Utilization Modes" refers to whether the organization tends to stress personal or impersonal media of communication, local or cosmopolitan sources, and prior or up-to-date information.

Problems, Needs and Priorities. The factor "Problems, Needs and Priorities" defines various aspects of the problem faced by the organization, including the following variables:

- Chronic vs. Acute
- Unique vs. Common
- Content Area
- Grade Level
- Importance to Organization

The variable chronic vs. acute refers to whether the problem is of long or short-term duration. "Unique vs. common" refers to whether the problem is unique to that organization or is one being faced by many similar organizations. The variables of content area, grade level and importance to organization are self-explanatory.

Organizational Attributes. Just as an individual has attributes so do organizations, and in all probability, these attributes, affect an organization's use of information. The organizational attributes factor includes the following variables:

- Organizational Climate
- Size
- Urban/Rural
- Enrollment Trends (growth vs. retrenchment)
- Population Characteristics

With the exception of organizational climate and population characteristics, these variables are self-explanatory. Campbell, Dunnette, Lawler and Weick (1970) present four dimensions which help to define the concept of organizational climate: 1) individual autonomy, 2) degree of structure imposed on individual positions, 3) reward orientation, and 4) consideration, warmth and support. Organizational climate may be inferred from objective indicators such as absenteeism, turnover and labor management problems, as well as from survey instruments that are intended to tap individuals' perceptions of the organization.

"Population characteristics" refers to the population served by the organization. For example, if a school is the organization, population characteristics would refer to the proportion of its students who are black, Spanish-speaking, poor and so forth. These types of data can assist service agencies in targeting their services. Because many

products and programs are directed to specific groups (e.g., bilingual and compensatory education programs), these products and programs can be targeted to organizations serving various types of students.

Context. Organizations exist within a broader context than their borders and they are influenced by elements of this broader context. For example, schools react to state and community mandates and values and respond in terms of the political realities of their situations. The variables included in the context factor are:

- Political Context
- Legislative Mandates
- Community Context

The political context refers to the relationship between the organization and the general political climate that impinges on it as well as on the specific political viewpoints of the organization's governing structure. If we use a school district as an example, then a widespread "Proposition 13" attitude within the state or community would constitute a general political context, while a move on the part of the school board toward "basics" would represent a more specific political impact. (We realize these variables are very broad and, therefore, can be assessed only in general terms.)

"Legislative mandates" are exemplified by PL 94-142, Education for All Handicapped Children Act, Florida's functional literacy testing program and California's Early Childhood Education Act. This type of information may be extremely useful to service agencies in planning their services.

The community context refers to the values of the community in which the organization is located and the expectations of the organization by the community. For example, if the citizens of a school

district demanded that the biblical story of creation be taught along with evolution, then the information service would have to provide both types of materials. That is, the content of the information and innovation provided by a service agency would have to be congruent with, or at least responsive to, the values of the community it serves.

Impact at the Individual Level

Although on its surface the measurement of impact of a dissemination service may appear easy, in actuality it is a very difficult process. Part of this difficulty may be because impact has been equated with change when, in fact, information can be used for a variety of purposes and change can occur or not occur for a variety of reasons. At the individual level, we perceive impact to include four factors:

- Client Sharing
- Activity for Which Used
- Actual Use of Information/Service
- Satisfaction (including reasons for repeat use)

"Client sharing" refers to the extent, if any, to which the information was shared or disseminated by the user to other individuals. Included in this factor are the following variables:

- With how many people was it shared?
- With what types of people was it shared (e.g., colleagues, superiors)?
- Why was it shared?

Information can be shared with others for a variety of reasons (e.g., they requested it; the information is relevant to their concerns; the sender is trying to convince or impress the receiver). The variable of "why shared" attempts to delineate the various reasons for sharing information.

Information can be used for a variety of activities (e.g., curriculum planning, classroom management). It appears important that service agencies know for what types of activities their services are used.

As mentioned earlier, Crandall and Harris (1978) point out that too many times the impact of information and/or services has been equated with change. This viewpoint, we believe, does not take into account the wide variety of uses to which information can be put. For example, information can be used to broaden oneself, to provide background material, or to confirm existing practice; and none of these activities lead necessarily to change. A service should seek information, therefore, on the uses to which the information and/or service is put, including those leading to change and those which do not.

The variable of satisfaction appears self-explanatory, but we must specify the aspects of the service with which we are concerned (e.g., negotiation, linker, follow-up). In addition, it is important to assess the reasons for repeat use since individuals may reuse the service because they were dissatisfied with the first use.

Impact at the Organizational Level

Impact can also be assessed at the organizational level by answering the following four questions, representing different degrees of analysis:

- What is the impact on the organization of a specific inquiry to the project or SEA?
- What is the impact on the organization of a series of inquiries between the organization and the project or SEA concerning a specific topic?
- What internal modifications has the organization made because of the existence of the SEA dissemination program?

- What is the impact of the existence of the SEA dissemination program on the relationship between the SEA and the organization?

Specific Inquiry. At this level of analysis, we are concerned with the impact of a specific inquiry (question and answer) on the organization. Given the work of Rich and Caplan (1976), we expect that a specific inquiry would have relatively little impact on the organization, at least in the short run; but because it is possible nevertheless that an inquiry may have an impact, we have developed the following factors to describe this type of impact:

- Pervasiveness
- Activity for Which Used
- Use of Information/Service

Pervasiveness is very similar to our individual impact factor of client sharing. Basically, this factor is concerned with: 1) how many different units received or were affected by the information and/or service (how widely spread), 2) how many levels of the organization were affected by the information and/or service (how highly spread), and 3) how central to the unit's task was the information and/or service (centrality)?

Although the factor "activity for which used" has the same title in both the individual and organizational analyses, the variables subsumed by these factors are not identical. When using this factor to discuss impact on organizations, we are referring to use by the organization for organizational activities. Examples of these activities would be:

- Procurement Policies
- Planning Procedures
- Personnel Policies

- Organization-wide activities (e.g., curriculum planning, academic requirements)
- Bureaucratic Security

The use of information/service factor includes the same variables here as it does for individual impact.

Internal Modifications. Internal modifications related to dissemination refers to changes in the "internal" service capacity of the organization that were stimulated or caused by the existence of the SEA dissemination program. These modifications could include: the designation of individuals to perform the function of internal linkers within the organization; the appointment of someone who has responsibility for coordinating knowledge utilization activities within the organization; the requirement that all proposals contain a literature review; and the incorporation of part of the services provided by the SEA into the organization (e.g., development of an internal ERIC searching capability).

Changes in the "internal" service capacity of an organization can be measured by examining the resources, linkage and leadership/management within the organization. Though it may be difficult to isolate the SEA dissemination program as the cause or influence of the change, we believe it is important to examine this type of impact because changes in the "internal" service capacity of those organizations will affect the dissemination activities of the projects and SEAs.

Relationship of Organizations and SEAs. Impact at the level of the relationship between the organization and the SEA refers to changes in both perceptions and behavior between the two organizations. An example of perceptual change would be: Does the organization perceive the SEA differently as a result of the existence of the project and the state dissemination program; (that is, is the SEA perceived as being more

service oriented?) An example of behavior change would be an increase in cooperative activities between the two organizations or the appointment by the organization of a liaison to the state dissemination program.

Final Note

In its Framework for the State Capacity Building Program, NTS lists the following evaluation question to reference the area of user capacity:

> How good a match is there between service capacity and user capacity? (NTS, 1978, p. 8)

Clearly, this question is not appropriate to the specificity of our new conceptualization of user capacity:

> To build and operate comprehensive dissemination programs, what intelligence is needed by the State Capacity Building Projects and the SEAs about individual and organizational users and non-users of dissemination services--and about the impacts of those services on individuals and organizations--at the school, school district, intermediate service agency and state education agency levels?

Therefore a substitute evaluation question is proposed as follows:

> To what extent do the projects use intelligence information to evaluate and, if necessary, to modify their service capacity, including their portfolio of services?

Or put another way, What is the impact upon the projects of their own intelligence gathering activities?

What Data Should NTS Collect?

Given the broad conceptualization of the intelligence component for dissemination service capacity, it is necessary to specify the types of data that NTS should collect. Because the NTS Study is focusing on the

State Dissemination Grants Program as exemplified by the Capacity Building projects, we believe that NTS should be examining the kinds of data that the projects are currently collecting on the various factors and variables discussed in this paper. The data that each project collects should be related to the services that it offers currently or plans to offer. Thus, NTS should first examine the services that each of the projects is offering or plans to offer and then examine the intelligence information that each project collects with regard to each of its services. Finally, NTS should examine how this intelligence information is used by each of the projects to evaluate and modify its services.

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